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EXAMINER

HUYNH, CONG LAC T

ART UNIT

PAPER NUMBER

2176

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/163,848

Applicant(s)

PEAIRS ET AL.

Examiner

Cong-Lac Huynh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 29 May 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

1. This action is responsive to communications: amendment filed 5/29/02 to the application filed on 09/30/98.
2. Claims 1-32 are pending in the case. Claims 1, 9, 13, 19, 24, 29 are independent claims.
3. The rejections of claims 1-3, 5, 7-9, 11, 13-28 under 35 U.S.C. 103(a) as being unpatentable over Fan in view of Sasaki have been withdrawn in view of the amendment.
4. The rejections of claims 4 and 10 under 35 U.S.C. 103(a) as being unpatentable over Fan in view of Sasaki and further in view of Morita have been withdrawn in view of the amendment.
5. The rejections of claims 6 and 12 under 35 U.S.C. 103(a) as being unpatentable over Fan in view of Sasaki and further in view of Tim Ho et al. have been withdrawn in view of the amendment.
6. The rejections of claims 29-32 under 35 U.S.C. 103(a) as being unpatentable over Mahoney in view of Sasaki have been withdrawn in view of the amendment.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102((e), f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-3, 5, 7-9, 11, 13-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fan et al., *Segmentation and Classification of Multimedia Document, IEEE International Workshop*, pages 416-430, 3/1992 in view of Nakagawa et al. (US Pat No. 5,812,295, 10/6/98, filed 9/26/96).

Regarding independent claim 1, Fan discloses:

- analyzing textual content and graphical content of a previously unclassified electronic document to determined a textual profile and a graphical profile of the electronic document (page 417, lines 12 to page 418, lines 1-7, a proposed document analysis system...analyze the structure of Japanese newspaper...to classify text and image...)
- generating a classification of the document based on the textual profile and the graphical profile (page 417, lines 12-18, algorithm for automatic separation and classification of text, image and graphic ...; page 418, lines 1-7, proposed a

texture analysis based algorithm to classify text and image...classify segmented blocks into different types of media)

Fan does not disclose storing the electronic document in a pre-existing directory structure based on the classification of the document and a document classification profile associated with the pre-existing directory structure to resemble a classification approach of the user.

However, Fan does teach an algorithm for automatic separation and classification of text, image, and graphic that is *advantageous in reproducing, transmitting, and storing the multimedia document* (page 417, lines 12-18).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified Fan to include storing the electronic document in a pre-existing directory structure based on the classification of the document and a document classification profile. The fact that said separation and classification are carried out automatically for advantageously storing multimedia documents suggests that storing the classified documents can be performed also by the system to preserve the accuracy of classified information.

Fan, however, does not disclose the directories for storing the classified documents and the document classification profile is defined according to a classification approach of a user.

Nakagawa discloses the folders for storing the classified documents where the document classification is based on the attributes of the documents (figure 3; col 2, lines 30-41).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified Nakagawa to include the attributes of document format such as text and graphics instead of the attributes of document contents such as a plan document or a design document. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified Nakagawa to include mirroring the second directory structure of the first directory structure since it was well known that copying a folder, which is considered as a directory, will produce an identical folder. That means, the first directory structure mirrors the second directory structure or vice versa.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have combined Nakagawa into Fan for obtaining a first directory and the second directory similar to the first one for storing classified documents based on the textual attributes and the graphical attributes.

Regarding claims 2, 3, 7, which are dependent on claim 1, Fan does not explicitly disclose that the *directory structure* comprises a hierarchy of documents mirroring in a similar fashion of the pre-existing memory.

Nakagawa discloses that the folder for storing the classified documents is organized in a hierarchical structure (figure 3; col 2, lines 42-47).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified Nakagawa to include the directory structure comprising a hierarchy of documents mirroring in a similar fashion of a pre-existing directory since by

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copying a directory of classified documents, one obtains a mirrored directory with the same hierarchical structure.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have combined Nakagawa into Fan for providing hierarchical directories for storing classified documents where one directory mirrors another.

Regarding claim 5, Fan discloses:

- determining a point set corresponding to the electronic document, wherein points of the point set correspond to points of lines (pages 422-423, define the graphic as the block with parse dark pixels...evaluate the dark pixels...; the pixels in the bitmap of the document are equivalent to a point set corresponding to the electronic document, and since the bitmap is a *grid* of rows and columns of bit 1 and bit 0 that the computer translates into pixels in the document, the pixel correspond to points of lines)
- determining a density of points within the point set (pages 422-423, evaluate the number of dark pixels for defining a block of graphic)
- classifying the multimedia document which includes text and graphic based on the feature of the media (page 418)

Fan does not disclose generating a document profile based, at least in part, on the density of points within the point set.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified Fan to include generating a document profile

based, at least in part, on the density of points within the point set since the density of points within the point set as in Fan suggests generating such a document profile.

Regarding claim 8, which is dependent on claim 1, Fan and Nakagawa do not disclose building the pre-existing directory structure by extracting graphical and text features from documents in a directory-based memory to obtain a document classification profile of each subdirectory in the directory-based memory.

However, Nakagawa discloses the hierarchy of directories which include different levels of directories based on different categories of classification (figure 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified Nakagawa to include building the pre-existing directory structure by extracting graphical and text features from documents in a directory-based memory to obtain a document classification profile of each subdirectory in the directory-based memory because of the following reason. The different levels of directories, which are subdirectories, imply said building since the creation of the subdirectories in different levels of directories is based on different classification categories.

Independent claims 9 and 11 are for a machine-readable medium of the method of claims 1 and 5, and are rejected under the same rationale.



Regarding independent claim 13, as disclosed in claim 1 above, Fan discloses:

- analyzing documents in a pre-existing directory to determine a document classification profile of the pre-existing document directory structure (page 417, lines 12 to page 418, lines 1-7, a proposed document analysis system...analyze the structure ...to classify text and image...)
- analyzing *textual content* of the electronic document to determine a *textual profile* of the electronic document (page 417, lines 12 to page 418, lines 1-7, a proposed document analysis system...analyze the structure ...to classify text and image...)
- analyzing graphical content of the electronic document using image data of the document (page 418, lines 1-10, as to the block classification....proposed a texture analysis based algorithm to classify text and image....separate and classify the text, image...and analyze the structure of each separated media...)

Fan does not disclose generating a *mirror directory* structure based on the pre-existing directory and placing a document in the *mirror directory* structure based on the organization of the pre-existing document directory structure.

Nakagawa discloses a directory for storing documents based on the classification (figure 3; col 2, lines 30-47).

Nakagawa does not disclose that the directory structure for placing classified documents is a *mirror directory structure*, and said placing is based on the textual profile and the graphical profile of the document.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have included that feature into Nakagawa since a mirror

directory can be generated by copying a pre-existing directory. Furthermore, since the directory structure is generated based on the *document classification* and *document attribute information file* (figure 3; col 2, lines 30-47), it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have combined Nakagawa into Fan to obtain the directory structure as well as a mirror directory structure for storing documents classified based on text and graphics features of documents.

Regarding claim 14, which is dependent on claim 13, Fan does not disclose:

- generating a list of directories in the pre-existing document directory structure
- examining files in the directories of the pre-existing document directory structure to determine content
- examining the content of the files to determine *the document classification profile* of the directories in the pre-existing document directory structure

Nakagawa discloses:

- generating a list of directories in the pre-existing document directory structure (figure 5)
- examining files in the directories of the pre-existing document directory structure to determine content (figures 3-5)
- examining the content of the files to determine *the document classification profile* of the directories in the pre-existing document directory structure (figures 3-6, text documents and image documents)

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Fan and Nakagawa do not explicitly disclose the recursively descending the pre-existing document directory structure. However, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have incorporated the recursively descending the pre-existing document directory structure into the hierarchical file system of Nakagawa for facilitating in browsing the hierarchical directory in descending order.

Claim 15, which is dependent on claim 13, includes the added limitations of claim 3, and is rejected under the same rationale.

Regarding claim 16, which is dependent on claim 13, the same argument is applied as in claims 1 and 2 above. The pre-existing directory is organized in hierarchy, which shows the relationships among directories, and the generating of a mirror directory is carried out by copying the pre-existing directory. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have recognized that the copying will copy all features of the pre-existing directory to a mirror directory such as set of directories and relationships among them.

Regarding claims 17 and 18, Fan does not disclose:

- determining a primary directory and the secondary directory in the pre-existing document directory structure in which the document should be placed based on

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the document classification profile of the pre-existing document directory structure

- storing the document in a primary corresponding directory and storing the document in a secondary corresponding directory in the mirror directory structure that corresponds to the primary directory in the pre-existing document directory

Nakagawa discloses the folders for storing classified documents (col 2, lines 30-47; col 6, lines 35-67).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified Nakagawa to include mirroring the primary directory of the secondary directory since whatever documents stored in either the primary directory or the secondary directory will be stored in the equivalent directory of the mirror directory based on the *document classification profile* since the mirror directory is generated by merely copying from the pre-existing directory.

Claims 19-23 are for the computer-readable medium of the method claims 13-14, 16-18, and are rejected under the same rationale.

Claims 24-28 are for an apparatus of claims 13-14, 16-18, and are rejected under the same rationale.

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10. Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fan in view of Nakagawa as applied to claim 1 above, and further in view of Morita et al. (US Pat No. 5,832,470, 11/3/98, filed 9/29/95).

Regarding claim 4, which is dependent on claim 1, Fan and Nakagawa do not disclose:

- determining characteristic words of the document
- determining a frequency for each characteristic word
- building a frequency table based on the frequency associated with each characteristic word

Morita discloses

- determining characteristic words of the document (figure 13, #1301-#1309; figure 16, keywords in documents)
- determining a frequency for each characteristic word (figure 15; col 11, lines 58 to col 12, lines 1-7)
- building a frequency table based on the frequency associated with each characteristic word (figure 15, the frequency table based on the keyword in documents)

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have combined Morita into Fan and Nakagawa to facilitate the text classification in a document using the frequency of keywords in documents.

Independent claim 10 is for a machine-readable medium of the method of claim 1, and is rejected under the same rationale.

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11. Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fan in view of Nakagawa as applied to claims 1 and 9 above, and further in view of Tim Ho et al. (*Decision Combination in Multiple Classifier Systems*, IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 16, No. 1, January 1994).

Regarding claim 6, which is dependent on claim 1, Fan and Nakagawa do not disclose that the generating of a classification of a document based on the textual and graphical properties comprises combining results from the textual and graphical analysis using a Borda Count.

Ho discloses the Borda Count Method in which the Borda Count is a generalization of the majority vote and the Borda Count for a class is the sum of the number of classes ranked below it by each classifier (page 68, part B).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have incorporated the assigning of points to classes and the sum of the points of Ho into Fan and Nakagawa since Nakagawa discloses the directories to store classified documents in different types and different levels.

Claim 12 is a machine-readable medium for the method claim 6, and is rejected under the same rationale.

12. Claims 1-3, 5, 7-9, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antonacopoulos et al., Segmentation and Classification of Document Images, IEEE, 1995, pages 16/1-16/7 in view of Nakagawa et al. (US Pat No. 5,819,295, 10/6/98, filed 9/26/96).

Regarding independent claim 1, Antonacopoulos discloses:

- analyzing textual content and graphical content of a previously unclassified electronic document to determine a textual profile and a graphical profile of the electronic document (page 16/1, introduction; page 16/2, 3<sup>rd</sup> and 4<sup>th</sup> paragraphs)
- generating a classification of the document based on the textual profile and the graphical profile (page 16/1, introduction; page 16/2, 3<sup>rd</sup> and 4<sup>th</sup> paragraphs)

Antonacopoulos does not disclose storing the electronic document based on the classification of the document and the document classification profile, and the first directory structure for storing a classified document wherein the first directory structure mirrors a second directory structure, and the document classification profile is defined according to a classification approach of a user with respect to the second directory structure.

Nakagawa discloses folders for storing classified documents according to the classification where the document classification is based on the document attributes (figure 3; col 2, lines 30-41).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified Nakagawa to include the attributes of document format such as text and graphics instead of the attributes of document contents such as a plan

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document or a design document, and storing classified documents in a directory since it was well known that data, after created, needs to be stored in memory for later use. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified Nakagawa to include mirroring the second directory structure of the first directory structure since it was well known that copying a folder, which is considered as a directory, will produce an identical folder. That means, the first directory structure mirrors the second directory structure or vice versa.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have combined Nakagawa into Antonacopoulos for obtaining a first directory and the second directory similar to the first one for storing classified documents based on the textual attributes and the graphical attributes.

Regarding claims 2, 3, 7, which are dependent on claim 1, Antonacopoulos does not explicitly disclose that the *directory structure* comprises a hierarchy of documents mirroring in a similar fashion of the pre-existing memory.

Nakagawa discloses that the folder for storing the classified documents is organized in a hierarchical structure (figure 3; col 2, lines 42-47).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified Nakagawa to include the directory structure comprising a hierarchy of documents mirroring in a similar fashion of a pre-existing directory since by copying a directory of classified documents, one obtains a mirrored directory with the same hierarchical structure.



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It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have combined Nakagawa into Antonacopoulos for providing hierarchical directories for storing classified documents where one directory mirrors another.

Regarding claim 5, Antonacopoulos discloses:

- determining a point set corresponding to the electronic document, wherein points of the point set correspond to points of lines (page 16/3, 2<sup>nd</sup> paragraph; figure 2)
- determining a density of points within the point set (page 16/3, 3<sup>rd</sup> paragraph)
- classifying the multimedia document which includes text and graphic based on the feature of the media (page 16/4)

Antonacopoulos does not disclose generating a document profile based, at least in part, on the density of points within the point set.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified Antonacopoulos to include generating a document profile based, at least in part, on the density of points within the point set because of the following reason. The fact the description of images regions of a document is used for classification of documents in Antonacopoulos where it was well known that an image region and a text region include different number of pixels suggests generating document profile based on the different attributes of the regions.

Regarding claim 8, which is dependent on claim 1, Antonacopoulos and Nakagawa do not disclose building the pre-existing directory structure by extracting graphical and text

features from documents in a directory-based memory to obtain a document classification profile of each subdirectory in the directory-based memory.

Nakagawa discloses the hierarchical directories which include different levels of directories based on different categories of classification (figure 3; col 2, lines 42-47).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified Nakagawa to include building the pre-existing directory structure by extracting graphical and text features from documents in a directory-based memory to obtain a document classification profile of each subdirectory in the directory-based memory because of the following reason. The different levels of directories, which are subdirectories, imply said building since the creation of the subdirectories in different levels of directories is based on different classification categories.

Independent claims 9 and 11 are for a machine-readable medium of the method of claims 1 and 5, and are rejected under the same rationale.

13. Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antonacopoulos in view of Nakagawa as applied to claim 1 above, and further in view of Morita et al. (US Pat No. 5,832,470, 11/3/98, filed 9/29/95).

Regarding claim 4, which is dependent on claim 1, Antonacopoulos and Nakagawa do not disclose:

- determining characteristic words of the document

- determining a frequency for each characteristic word
- building a frequency table based on the frequency associated with each characteristic word

Morita discloses

- determining characteristic words of the document (figure 13, #1301-#1309; figure 16, keywords in documents)
- determining a frequency for each characteristic word (figure 15; col 11, lines 58 to col 12, lines 1-7)
- building a frequency table based on the frequency associated with each characteristic word (figure 15, the frequency table based on the keyword in documents)

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have combined Morita into Antonacopoulos and Nakagawa to facilitate the text classification in a document using the frequency of keywords in documents.

Independent claim 10 is for a machine-readable medium of the method of claim 1, and is rejected under the same rationale.

14. Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antonacopoulos in view of Nakagawa as applied to claims 1 and 9 above, and further in view of Tim Ho et al. (*Decision Combination in Multiple Classifier Systems*, IEEE

Transactions on Pattern Analysis and Machine Intelligence, Vol. 16, No. 1, January 1994).

Regarding claim 6, which is dependent on claim 1, Antonacopoulos and Nakagawa do not disclose that the generating of a classification of a document based on the textual and graphical properties comprises combining results from the textual and graphical analysis using a Borda Count.

Ho discloses the Borda Count Method in which the Borda Count is a generalization of the majority vote and the Borda Count for a class is the sum of the number of classes ranked below it by each classifier (page 68, part B).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have incorporated the assigning of points to classes and the sum of the points of Ho into Antonacopoulos and Nakagawa since Nakagawa discloses the directories to store classified documents in different types and different levels.

Claim 12 is a machine-readable medium for the method claim 6, and is rejected under the same rationale.

15. Claims 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mahoney (US Pat No. 5,889,886, 3/30/99, filed 11/28/95) in view of Nakagawa et al. (US Pat No. 5,812,295, 10/6/98, filed 9/26/96).

Regarding independent claim 29 and dependent claim 30, Mahoney discloses:

- a document scanning device (figure 1A)
- a document storage device coupled to the document scanning device, wherein the document storage device is organized as document directory structure having multiple directories (figure 1A, figure 2, figure 3)
- a processor coupled to the document scanning device and to the document storage device, wherein the processor analyzes *the content* of a document scanned by the document scanning device to store the document in a memory (figure 1B)

Mahoney does not disclose determining a directory to store the classified documents.

Nakagawa discloses storing the classified documents in the folders based on the document attributes (figure 3; col 2, lines 30-47; col 6, lines 36-67).

Mahoney and Nakagawa do not disclose that the storage device has a mirror directory having multiple directories organized based on the document directory structure.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have included the storage device has a mirror directory having multiple directories organized based on the document directory structure into Nakagawa and combined Nakagawa with Mahoney since the mirror directory is generated by merely copying the pre-existing directory.

In addition, Mahoney does not disclose storing of analyzed documents in the mirror directory corresponding to the pre-existing directory. Nakagawa discloses storing analyzed documents in a folder (col 2, lines 30-41; col 6, lines 36-54).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified Nakagawa to include storing analyzed documents in the mirror directory since by copying of the pre-existing directory, which includes classified documents, the documents will be stored in corresponding directory equivalent to the pre-existing directory. In other words, the copied directory is a mirrored directory.

Regarding claim 31, which is dependent on claim 29, Mahoney discloses that the processor analyzes files stored in the document directory structure to determine content and generates a *document classification profile* of the document directory structure based on the analysis (figure 1A, figure 2).

Regarding claim 32, Mahoney discloses that the document is analyzed based on image and textual content (col 1, lines 23-67; col 2, lines 1-6).

### ***Response to Arguments***

16. Applicant's arguments with respect to claims 1-32 have been considered but are moot in view of the new ground(s) of rejection.

Applicants argue that Fan does not disclose a first directory structure mirroring a second directory structure and a document classification profile associated with the first directory structure that is defined according to a classification approach used by the user with respect to the second directory structure, and storing the document in the first

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directory structure based on a classification of the document and the document classification profile.

Examiner agrees.

However, Fan does teach the *classification of segmented blocks* of the documents and *storing documents after being classified*, as admitted by applicants in the remark. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified Fan to include a directory structure for storing the classified document since it was well known that a document, when being stored, must be located in a directory or a folder. That is, the classified document must be stored in a directory which can be the first directory. Also, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified Fan to include the feature that a first structure mirroring a second directory structure since it was well known that by copying a file, the system will have an identical file. That means, the first directory mirrors the second directory and vice versa.

Applicants also argue that Sasaki does not disclose the directories for storing classified documents where the classification is based on the attributes of the documents.

Examiner agrees.

Sasaki is withdrawn in this office action.

Nakagawa, the cited reference, discloses the directories for storing classified documents where the classification is based on the attributes of the documents (col 2, lines 30-47; col 6, lines 36-67).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified Nakagawa to include the attributes of text and graphics instead of the attributes of different types of documents since it is easily noted that the attributes in Nakagawa are derived from the content of documents, which can be substituted by the attributes of text and graphics, derived from the format of the documents for classifying documents by their format.

### ***Conclusion***

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Spitz et al. (US Pat No. 5,414,781, 5/9/95, filed 11/24/93).

Wical (US Pat No. 5,930,788, 7/27/99, filed 7/17/97).

Peairs (US Pat No. 5,717,940, 2/10/98, filed 4/28/95).

Schilit et al. (US Pat No. 6,356,922 B1, 3/12/02, filed 6/19/98).

Revankar et al. (US Pat No. 5,767,978, 6/16/98, filed 1/21/97).

Chiba (US Pat No. 6,363,178 B1, 3/26/02, filed 3/17/98).

Azokly et al., A language for Document Generic Layout Description and Its Use for Segmentation into Regions, IEEE, 8/1995, vol. 2, pages 1123-1126.




Jain et al., Page Segmentation Using Document Model, IEEE, 8/1997, vol. 1, pages 34-38.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cong-Lac Huynh whose telephone number is 703-305-0432. The examiner can normally be reached on Mon-Fri (8:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Herndon can be reached on 703-308-5186. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 707-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9000.

clh  
August 5, 2002

  
STEPHEN S. HONG  
PRIMARY EXAMINER